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(FILE 'HOME' ENTERED AT 15:59:48 ON 02 APR 2003)

FILE 'REGISTRY' ENTERED AT 16:00:03 ON 02 APR 2003

L1 1 SEA CALCIUM GLUTARATE/CN  
D

FILE 'EMBASE, BIOSIS, EUROPATFULL, JAPIO, ADISCTI, ADISINSIGHT, ADISNEWS, BABS, BIOBUSINESS, BIOCOMMERCE, BIOTECHNO, CANCERLIT, CAPLUS, CBNB, CEN, CIN, CONFSCI, DGENE, DIOGENES, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, DRUGUPDATES, EMBAL, ESBIOBASE, ...' ENTERED AT 16:00:55 ON 02 APR 2003

L2 2273 SEA (CALCIUM (9999A) GLUTARATE) OR CALCIUM AND (DIOATE OR DIOATES OR DIOIC OR DIOICS)  
L3 1966 SEA L2 AND (TABLET OR TABLETS OR CAPSULE OR CAPSULES OR LIQUID OR LIQUIDS OR DRINK OR DRINKS OR BEVERAGE OR BEVERAGES OR EFFERVES?)  
L4 135 SEA L3 AND GLUTARATE  
L5 124 DUP REM L4 (11 DUPLICATES REMOVED)  
D 1-124  
L6 319 SEA L3 AND (PENTANEDIOIC OR PENTANEDIOATE OR PENTANE)  
L7 31 SEA L6 AND L4  
D 1-31  
L8 288 SEA L6 NOT L4  
L9 286 DUP REM L8 (2 DUPLICATES REMOVED)  
D 1-286  
D 86 KWIC  
L10 2006 SEA CALCIUM AND GLUTARATE  
L11 1753 SEA CALCIUM (L) GLUTARATE  
L12 252 SEA CALCIUM (9999A) GLUTARATE  
L13 200 DUP REM L12 (52 DUPLICATES REMOVED)  
D 1-200 KWIC  
D 189  
D 124  
D 119 IALL ABEX  
D 118 IALL  
D 69 IALL ABE  
D 45

L13 ANSWER 69 OF 200 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:350361 CAPLUS  
DOCUMENT NUMBER: 132:325765  
TITLE: Drinking water containing calcium  
INVENTOR(S): Meng, Guangzhen  
PATENT ASSIGNEE(S): Peop. Rep. China  
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.  
CODEN: CNXXEV  
DOCUMENT TYPE: Patent  
LANGUAGE: Chinese  
INT. PATENT CLASSIF.:  
MAIN: A23L002-00  
SECONDARY: A23L001-30  
CLASSIFICATION: 61-5 (Water)  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1210695	A	19990317	CN 1997-116419	19970911
PRIORITY APPLN. INFO.:			CN 1997-116419	19970911

ABSTRACT:

Drinking water is mineralized by addn. with org. Ca salt 10-1,000 mg/L, org. Mg salt <500 mg/L, and vitamin D 50-500 unit/L. The Ca salt contains the org. acid radical selected from fumarate, citrate, malate, lactate, succinate, glutarate, and gluconate radicals; and the water from tap water, distd. water, purified water, and well water.

SUPPL. TERM: mineralization drinking water org calcium

INDEX TERM: Water purification  
(mineralization; in drinking water contg. calcium for health cares)

INDEX TERM: 140-99-8, Calcium succinate 299-28-5, Calcium gluconate  
814-80-2, Calcium lactate 1406-16-2, Vitamin D  
3416-22-6, Calcium fumarate 7693-13-2, Calcium citrate  
17482-42-7, Calcium malate 52009-16-2, **Calcium glutarate**

ROLE: MOA (Modifier or additive use); USES (Uses)  
(mineralization by; in drinking water contg. **calcium** for health cares)

ACCESSION NUMBER: 1995-41542 DRUGU B T P S

TITLE: Calcium glucarate as a chemopreventive agent in breast cancer.

AUTHOR: Heerdt A S; Young C W; Borgen P I

CORPORATE SOURCE: Memorial-Sloan-Kettering-Cancer-Cent.

LOCATION: New York, N.Y., USA

SOURCE: Isr.J.Med.Sci. (31, No. 2-3, 101-05, 1995) 2 Fig. 40 Ref.

CODEN: IJMDAI ISSN: 0021-2180

AVAIL. OF DOC.: Breast Service, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021, U.S.A.

LANGUAGE: English

DOCUMENT TYPE: Journal

# ABSTRACT:

Use of calcium-glucarate (CG) as a chemopreventative agent in breast cancer is reviewed. CG appears effective and safer than tamoxifen (TA), which may have side-effects and increase the risk of thromboembolism and uterine cancer. CG appears to act via indirect inhibition of beta-glucuronidase (BG) activity via D-glucaro-1,4-lactone and acts as a sustained release form of this agent. Dietary CG decreases benzo(a)pyrene induced adenomas in mice, pre-neoplastic hepatic lesions in rats exposed to N-diethylnitrosamine (DN), with phenobarbital (PB) as promotor, GI carcinoma due to azoxymethane (AZ) and mammary tumors in rats exposed to 7,12-dimethylbenz(a)anthracene (DMBA). There is no apparent toxicity in man.

SECTION HEADING: B Biochemistry  
T Therapeutics  
P Pharmacology  
S Adverse Effects

CLASSIF. CODE: 8 Pharmacokinetics  
14 Enzyme Inhibitors  
35 Adverse Reactions  
51 Chemotherapy - clinical  
52 Chemotherapy - non-clinical  
64 Clinical Trials  
69 Reviews

# CONTROLLED TERM:

[01] CALCIUM-GLUCARATE \*PH; MAMMA \*TR; MAMMA-DISEASE \*TR; NEOPLASM \*TR; ADENOMA \*OC; CARCINOMA \*OC; INTESTINE \*OC; COLON \*OC; GASTROENTEROPATHY \*OC; MAMMA \*OC; MAMMA-DISEASE \*OC; PNEUMOPATHY \*OC; LUNG \*OC; ADENOCARCINOMA \*OC; ANIMAL-NEOPLASM \*OC; TAMOXIFEN \*RC; BENZO-A-PYRENE \*RC; NITROSODIETHYLAMINE \*RC; PHENOBARBITAL \*RC; AZOXYMETHANE \*RC; DIMETHYLBENZANTHRACENE \*RC; CAGLUCARA \*RN; MAIN-TOPIC \*FT; REVIEW \*FT; CYTOSTATIC \*FT; CASES \*FT; PHASE-I \*FT; RAT \*FT; MODE-OF-ACT. \*FT; INHIBITION \*FT; BETA-GLUCURONIDASE-INHIBITOR \*FT; P.O. \*FT; MOUSE \*FT; CYTOSTATIC \*FT; METABOLITE \*FT; BIOSYNTH. \*FT; SIDE-EFFECT-ABSENT \*FT; CLIN.TRIAL \*FT; LAB.ANIMAL \*FT; CYTOSTATICS \*FT; PH \*FT; AE \*FT; DM \*FT; TR \*FT

FIELD AVAIL.: AB; LA; CT

FILE SEGMENT: Literature

ABEX CG reduces contralateral cancers by 33% in patients treated for breast cancer. TA may have a role in chemoprevention but may be associated with irregular menstrual cycles or menopausal symptoms or increased in thromboembolic disorders and uterine cancer. CG is metabolized in the stomach to D-glucaro-1,4-lactone (in equilibrium with D-glucaric acid and D-glucaro-6,3-lactone), which decreases BG activity, increases the carcinogen, toxin and steroid products excreted in a conjugated form and

decreases activity of the substances most active in the deconjugated state but has not been commercially produced. CG (**calcium**-D-glutarate, **calcium**-D-saccharate and D-glucaric acid) has long been used to stabilize **calcium** gluconate and produces more prolonged BG inhibition. In highly susceptible mice, CG decreases benzo(a)pyrene-induced pulmonary adenoma (incidence by 56%, number of tumors by 87.5%) with decreased serum BG and benzo(a)pyrene binding to DNA. 4% CG delays the onset of development of pre-neoplastic altered hepatic foci in rats induced by DN with 0.05% PB (also decreases the number of foci). CG reduces colonic adenocarcinoma in rats exposed to AZ but **calcium** gluconate has no effect. CG decreased breast carcinomas due to DMBA in rats (incidence by 7%, volume by 73%), while 2% CG resulted in as 50% reduction in CG. A phase I trial of high doses of CG in patients at high risk of breast cancer shows no toxicity, good tolerance and a fall in serum BG. (E8/KP)

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